

**U.S. Private Network Service  
Penetration Strategy**

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**Presentation**

INPUT





**U.S. Private Network Service**  
**Penetration Strategy**  

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**Presentation**

for

British  
**TELECOM**  
International

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*By:* INPUT  
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March 7, 1989

Z-BT1  
1989

AUTHOR

U.S. PRIVATE NETWORK SERVICE

TITLE

PENETRATION STRATEGY

DATE  
LOANED

BORROWER'S NAME

# **Presentation Outline**

- I. Introduction
- II. User Survey Findings
- III. Competitive Environment
- IV. Market Forecast
- V. BTI Strategy Recommendations
- VI. BTI Business Model
- VII. Follow On Issues







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## **BTI Study Objective**

Recommend one or more strategies for rapid (2 year) penetration of the U.S. market for private network services (design, implementation, operation, and field support).

## **Project Scope**

- User Surveys
- Market Forecasts
- Market Penetration Requirements
- Product and Service Overviews
- Vendor Profiles

## **Deliverables**

- *Network Management User Requirements* Report
- Preliminary Draft Presentation for BTI Review
- Presentations (Interim/CA, Final/London)
- Written Report

## **Additional Value Provided to BTI**

1. Assessment of U.S. telecom *services* competitive environment (Chapter II).
2. Overview of computer third-party maintenance (TPM) market and suppliers (Appendix C).
3. INPUT reports on Network Integration and Emerging Network Based Markets.



# **BTI Study Characteristics**

## **Our Experience:**

- Very Challenging Project
- Private Network Market Has Many “Faces”
- Language/Terminology Not Fully Established
- Few Patterns Emerging
- Dynamic Changes Occurring

## **INPUT Research Team**

**Project Manager:** Denny White  
Director, Custom Research

**Four Senior Personnel:** Alex Graham  
Buddy Stigler  
Marc Matheson  
Denny White

**Five Research Analysts**

**Project Locations:** Mountain View, CA  
Parsippany, NJ

**Executive Review:** Bob Goodwin  
Vice President, Research

Peter Cunningham  
President

**DENNIS WHITE**  
**Director, Custom Research**  
**INPUT**

**Experience:**

- Twenty years in IS and data communications
- Marketing and business strategy development, mergers and acquisitions
- Twelve vertical markets
- Venture capital startups, turnaround situations, medium-size public companies, and a Fortune 100 company

**Background:**

- Vice President Marketing for Tymnet
- Vice President Marketing for Tymshare INSG
- Director of Marketing for Boole & Babbage,
- Director of Marketing for Syntelligence, Inc.
- Manager Strategic Planning for Tymshare
- Manager Business Planning for McDonnell Douglas Automation

**Education:**

- BS Engineering, Northwestern University
- MBA, Washington University (St. Louis)



**H.W. (Buddy) STIGLER**  
**Manager, Customer Service Program**  
**INPUT**

**Experience:**

- More than 39 years in diversified IBM career
- System installation, maintenance, and software support
- Competitive analysis, needs evaluation, customer satisfaction

**Background:**

- Director of Planning, Measurements, I/S, Staff Services, Offerings and Special Bids

**Education:**

- B.S.E.E., Mississippi State
- M.S. Industrial Management, MIT (Sloan Fellowship)

## Definitions

*Private Networks* - Combinations of transport services (lines) and equipment dedicated to the use of a single unique organization.

*Network Management* - The job of running networks, including network design, implementation, and operations. Also, a product or service that identifies, diagnoses, and specifies corrective action for network problems. Today, sometimes used when no other word fits...

*Field Service* - Customer service; on-site repair and maintenance.

*TPM* - Third party maintenance

## Definitions

*Network Design* - Technology selection, architecture/structure, capacity planning.

*Network Implementation* - Planning, scheduling, ordering, installing, and testing lines and equipment.

*Network Operations* - Traffic management, monitoring, problem management, network administration.

*Network Repair and Maintenance* - On- or off-site repair and maintenance of network facilities. Same as field service.



# Definitions

## *Network Equipment -*

- Modems
- Multiplexers/switchers
- Earth stations
- VSAT terminals
- Microwave links
- Network management systems

## *Network Related Equipment -*

- Front end processors
- PBXs
- LANs
- Key sets
- PCs
- Dumb terminals







## **II. User Survey Results**

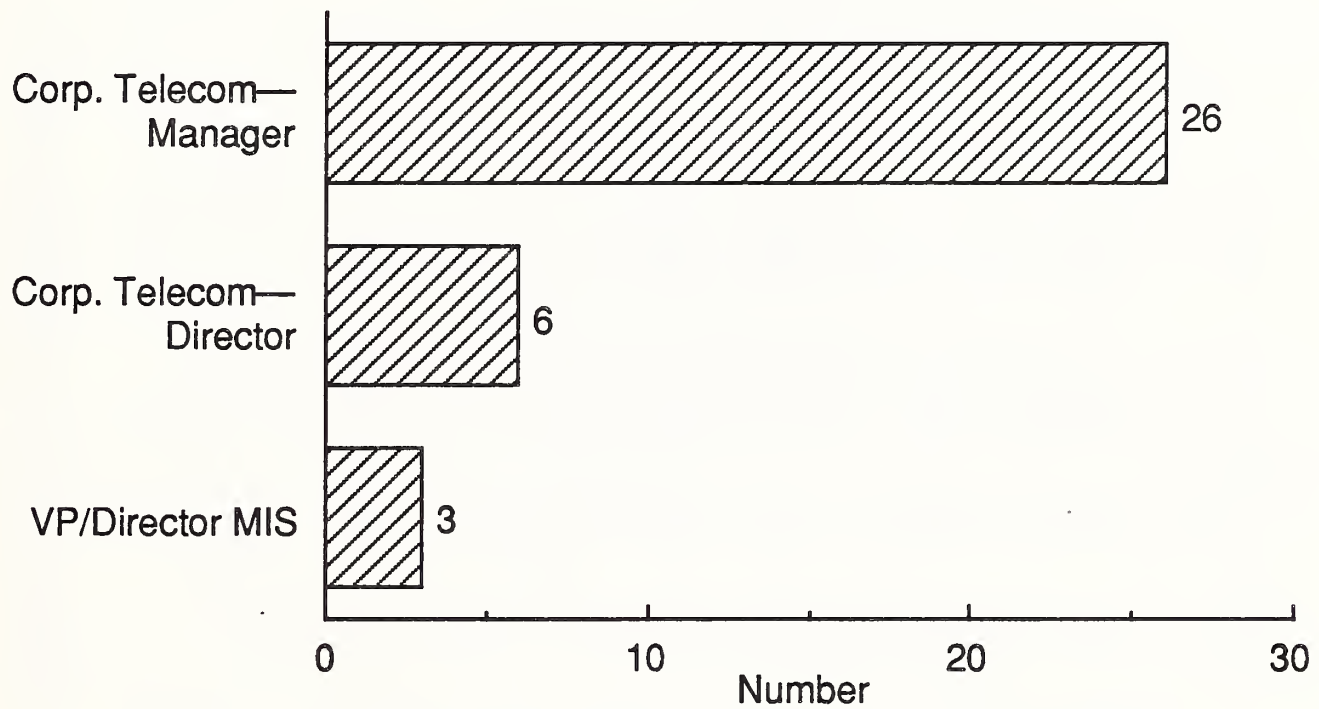
- A. Survey description
- B. Network expenditure patterns
- C. Need for telecom services
  - Network design
  - Network implementation
  - Network operations
  - Network repair and maintenance
- D. Reaction to hypothetical “full service” offering

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## USER QUESTIONNAIRE

1. 12 Pages Long
2. Over 300 Response Fields
3. Captured Narrative as well as "Hard" Responses
4. Covered:
  - Network Demographics
  - Experience with
    - Design
    - Implementation
    - Operations
    - Repair & Maintenance
  - Future Outlook in Same Four Areas
  - Reaction to Proposed Offering
    - Knee Jerk
    - Likes/Dislikes
    - Alliances
    - Foreign Ownership
    - Acid Test

## USER INTERVIEWEE PROFILE



- Long Interview 50 Minutes +
- Few 100% Complete

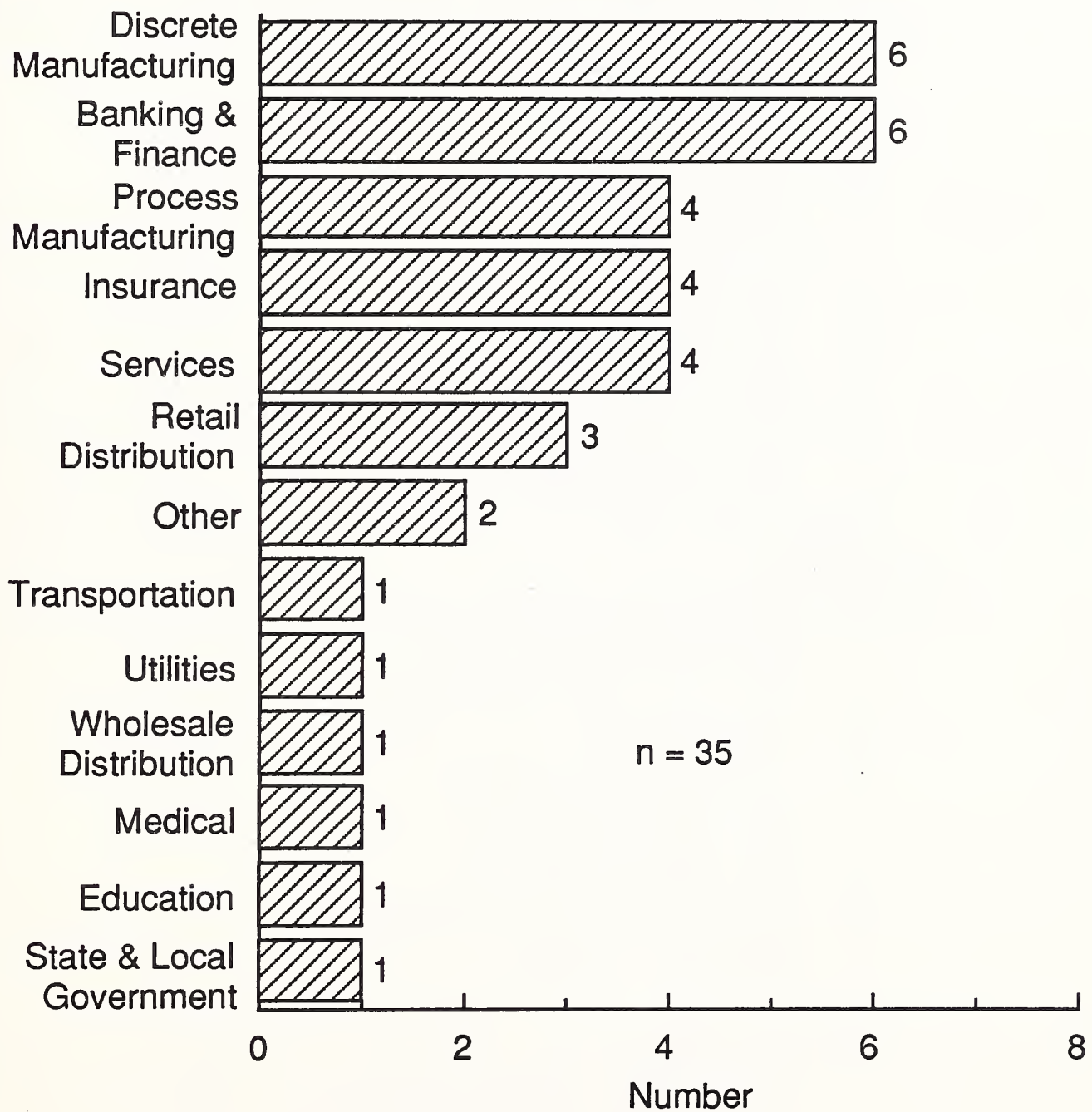
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## **USER SURVEY SAMPLE CHARACTERISTICS**

1. Diverse Regarding Industry and Size of Firm
2. Emphasis on Middle Range of "Large" and "Medium" Size Organizations (\$200 M to \$4 B Sales)
3. Good Balance between Leading Edge (39%) and Middle of the Pack (45%) Users; 15% Were Laggards
4. 95% of Network Resources inside U.S.A.
5. Nationwide Networks (60%) vs. Regional (40%)
6. Most (70%) Have Multiple Special-Purpose Networks (Avg. 3 per Organization) Rather than a Single Integrated Network



## USER SURVEY SAMPLE DISTRIBUTION BY INDUSTRY



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## USER SURVEY ORGANIZATIONS INTERVIEWED

### Very Large (>\$4B) like "Fortune 100"

- \*1. PG&E
- 2. McDonnell Douglas (Discrete Mfg.)
- 3. TransAmerica Corporation (Insurance)
- 4. Unisys (Discrete Mfg.)

### Large (\$500M-4B) like "Fortune 100 to 500"

- \*1. Del Monte (Discrete Mfg.)
- 2. Nabisco/Confection Division (Process Mfg.)
- 3. Church of Jesus Christ of Latter-Day Saints
- 4. Navistar Financial (Financial)
- 5. American Express Travel (Financial)
- 6. Crowley Maritime (Transportation)
- 7. Intel (Discrete Mfg.)
- \*8. Mervyns (Retail)
- 9. World Savings (Financial)
- \*10. Amdahl (Discrete Mfg.)
- \*11. Raley's (Retail)
- 12. Bruenens (Retail)
- 13. United Fruit (Growers and Real Estate)
- 14. Phelps Dodge (Mining)

### Medium (\$200-500M)

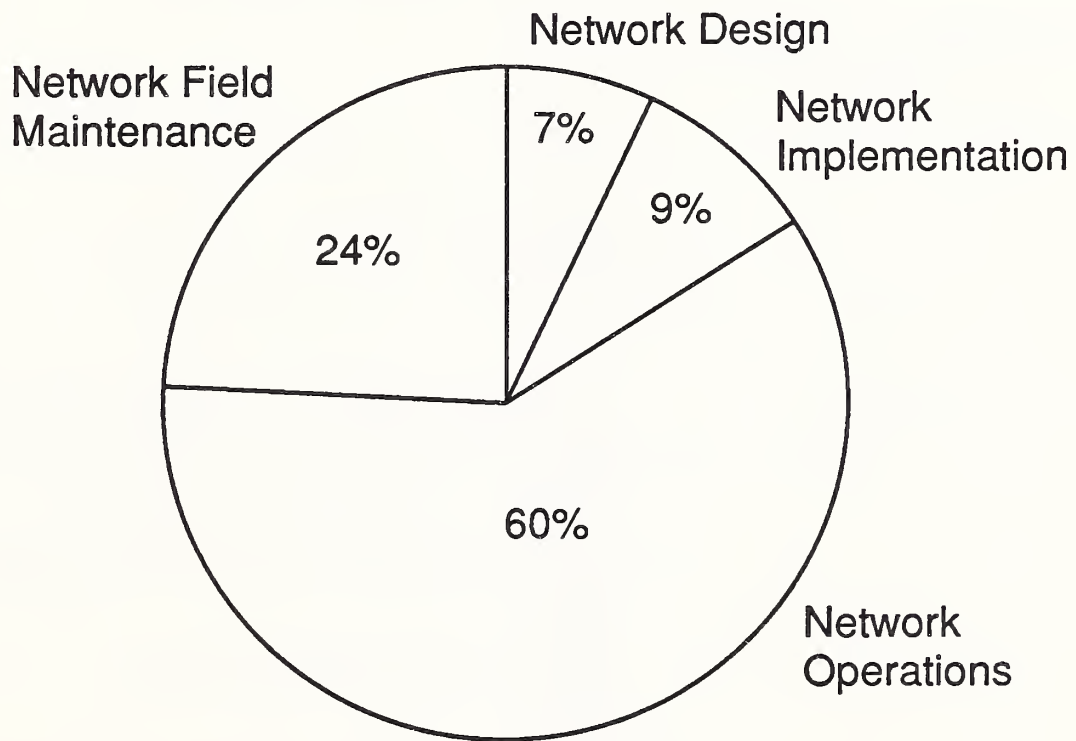
- 1. SRI International (Services)
- 2. CA Department of Fish and Game  
(State and Local Government)
- 3. First Security Bank (Financial)
- 4. Blue Cross of New York (Insurance)
- 5. Quotron (Services)
- 6. Iron Oak Supply (Wholesale)
- 7. Data Products (Discrete Mfg.)
- 8. Allied Signal (Discrete Mfg.)
- 9. Kaiser Engineers (Services)
- 10. Simplex Time Recorder (Process Mfg.)
- 11. Oregon Bank (Financial)
- 12. S.F. Federal Savings and Loan (Financial)

### Small (\$50-200M)

- 1. Good Samaritan Hospital (Medical)
- 2. University of San Francisco (Education)
- 3. On-Line Business Systems (Services)
- \*4. Delta Dental (Insurance)
- 5. Specialty Brands (Process Mfg.)

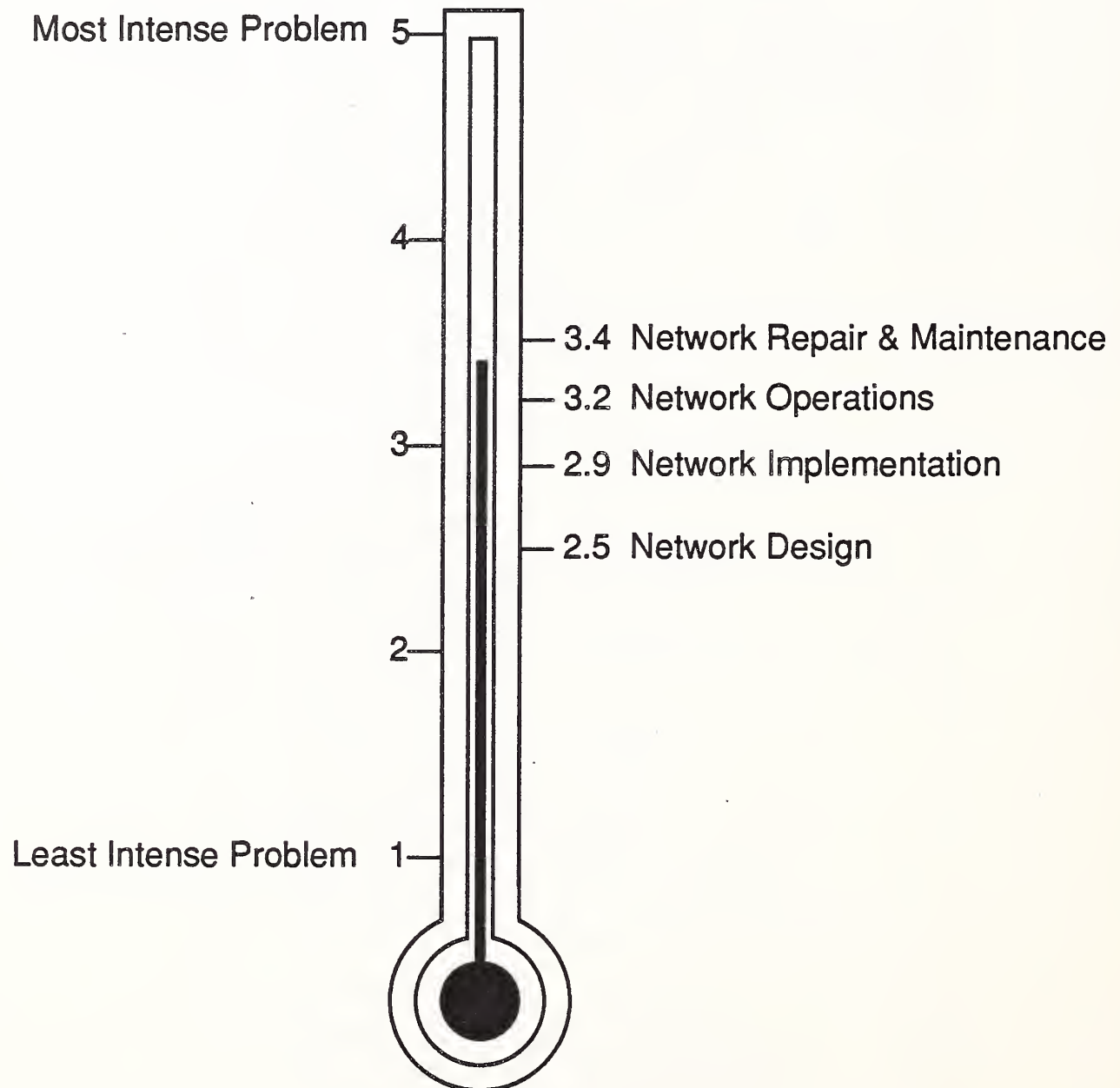
\* On-Site Interviews

## NETWORK BUDGET DISTRIBUTION



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## ANTICIPATED PROBLEM INTENSITY OVER NEXT FIVE YEARS



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## ANTICIPATED BUDGET GROWTH RATES OVER NEXT FIVE YEARS

	Rank
Network Operations	1
Network Repair & Maintenance	2
Network Design	4 (tie)
Network Implementation	4 (tie)

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## CURRENT SOURCE OF NETWORK SERVICES

### DESIGN SERVICES

	Percent
In-House	60
Outside	17
Both	23

### IMPLEMENTATION SERVICES

	Percent
In-House	50
Outside	10
Both	40

### OPERATIONS SERVICE

	Percent
In-House	93
Outside	0
Both	7

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## WHO PROVIDES THE MAINTENANCE SERVICE

A. Equipment Vendors	55%
Third-Party Maintenance Firms (TPM)	10%
In-House Staff	<u>35%</u>
	100%

### B. Strong Preferences

- 80% Use Two or More of the Three Sources
- Concentrations of 80% or Greater Field Service Work Were:

Equipment Manufacturer	15
TPM	1
In-House	<u>8</u>
Total Users with $\geq 80\%$ Concentration in One Field Service Source	24

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## **USER PERCEIVED NEED FOR NETWORK REPAIR AND MAINTENANCE SERVICES**

### **1. 93% Say It's Not a Problem Today**

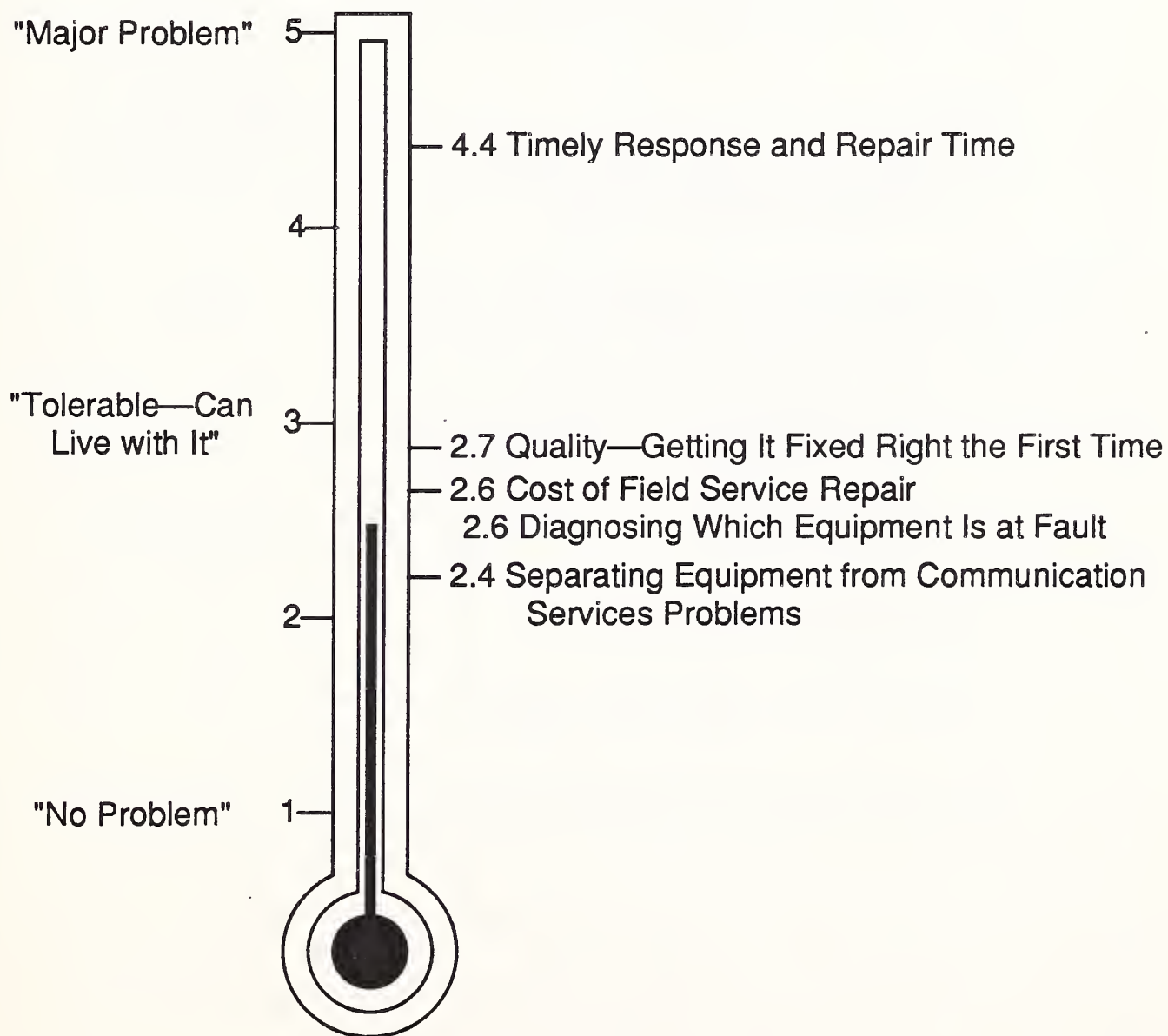
- Equipment Is Reliable
- Spares Are on Site
- Fed Express when Necessary

### **2. 78% Say Looking for Improvement in Field Services Is a Low Priority**

### **3. Most Feel Their Dealings with the Multivendor Environment Are Very Satisfactory...**

- They Average 7 Vendors
- Probably Are Mentally Resigned to This Situation

## PROBLEM RESOLUTION SATISFACTION LEVELS



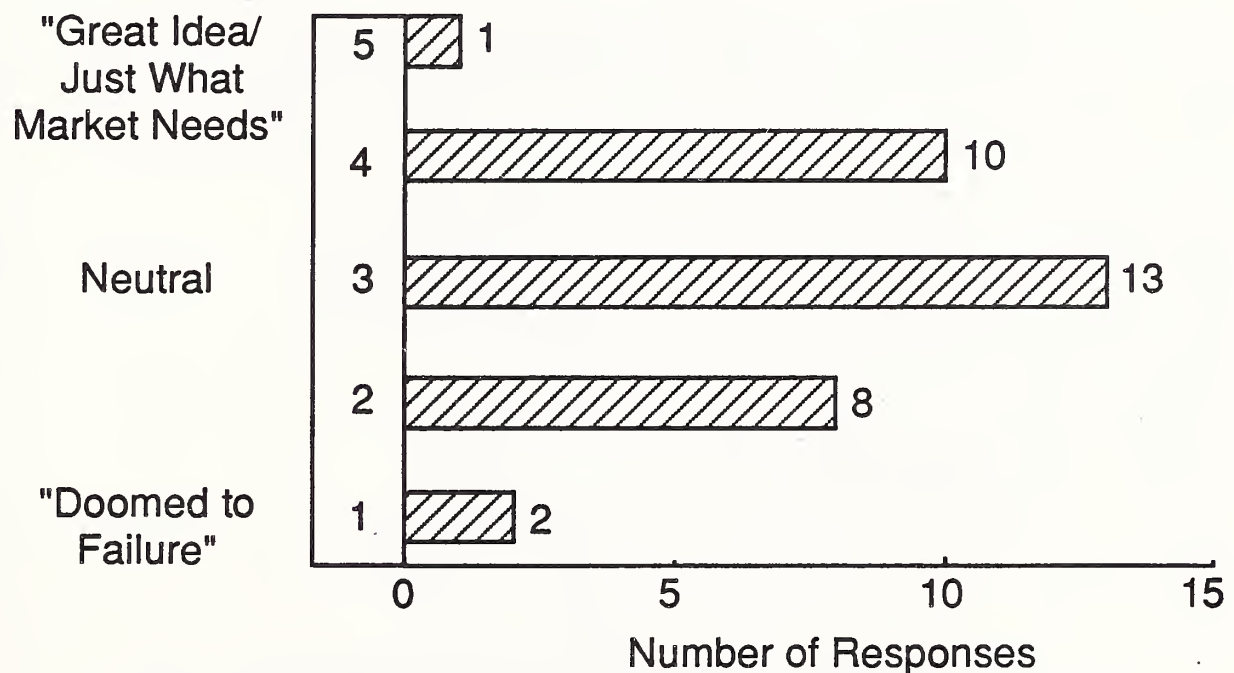
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**UNDER WHAT CIRCUMSTANCES WOULD YOU PUT  
ALL YOUR REPAIR AND MAINTENANCE BUSINESS  
IN THE HANDS OF A SINGLE TPM FIRM?  
(ANALYSIS OF NARRATIVE COMMENTS)**

	Percent of Mentions
If Less Expensive, Given Same or Better Quality Service	50
Would Never Consider This <ul style="list-style-type: none"> <li>• Too Much at Risk</li> <li>• Don't Want a Middle Man</li> <li>• Want Control</li> <li>• No One Could Do It Better than Us</li> <li>• Too Specialized</li> <li>• Not a Problem</li> </ul>	50
Faster Response Time	7
Network Management Expertise	4
Already Doing This and It's Great	4



# KNEE-JERK REACTION TO A PROPOSED OFFERING OF "COMBINED NETWORK MANAGEMENT AND FIELD SERVICE—ONE-STOP SHOPPING FOR NETWORK DESIGN, IMPLEMENTATION, OPERATION, AND REPAIR/MAINTENANCE



## **KNEE-JERK REACTION TO A PROPOSED OFFERING OF "COMBINED NETWORK MANAGEMENT AND FIELD SERVICE—ONE-STOP SHOPPING FOR NETWORK DESIGN, IMPLEMENTATION, OPERATION, AND REPAIR/MAINTENANCE**

### **Positive Respondent Quotes:**

- There's a Place for This, but Not My Company
- I Want Pieces—Not Everything
- Depends on Specifics

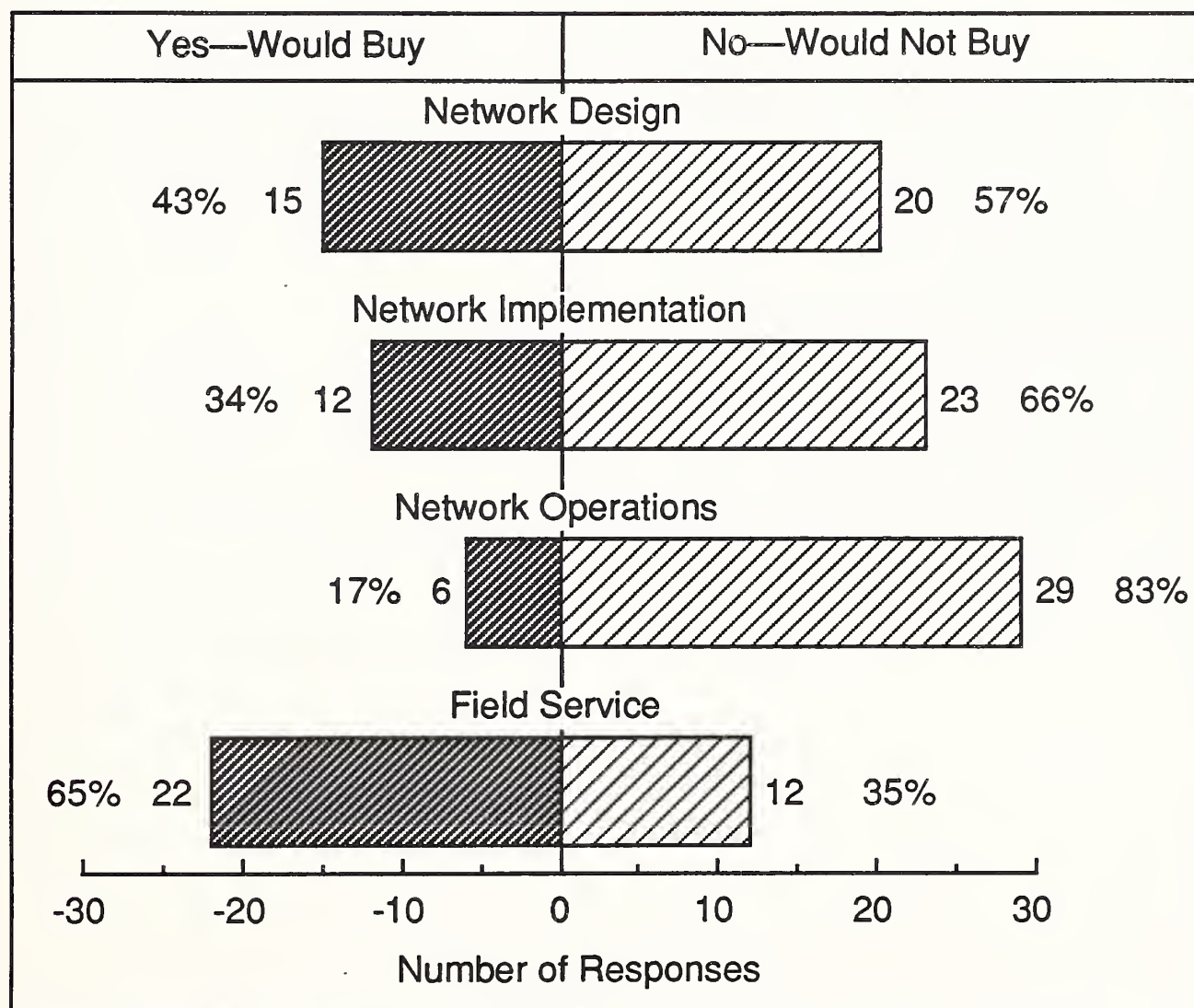
### **Neutral Respondent Quotes**

- Untested Idea
- Would Try Pieces
- We're Too Big, Good for Smaller Shop
- Probably Good for Big Complex Shop,  
Not Our Simple One
- Interesting Idea, But Not Here

### **Negative Respondent Quotes**

- Unwilling to Give Up Control
- No One Can Do Everything Well!
- Hard to Sell; Need Isn't Great

## WHAT SERVICES WOULD YOU CONSIDER/NOT CONSIDER BUYING?



INPUT

## PROPOSED OFFERING COMPARED WITH ACTUAL CURRENT BEHAVIOR

	Currently Using Outside Service (Percent)	Would Consider Outside Service in Proposed Offering (Percent)
Network Design	17	43
Network Implementation	10	34
Network Operation	0	17
Network Maintenance	65	65

## **WILLINGNESS TO CONSIDER OUTSIDE SERVICES**

(Same Question as Exhibit II-23)

	VPs/Directors (Percent)	Managers (Percent)
Network Design	70	32
Network Implementation	50	28
Network Operation	30	12
Network Maintenance	60	67

INPUT



**WOULD A TPM FIELD SERVICE  
ALONE BE SUFFICIENTLY ATTRACTIVE?**

"Yes"	24	(75%)
"No"	8	(25%)

## WHAT WILL IT TAKE TO WIN YOUR BUSINESS?

	Percent
The "Minimum" Field Service Must Cover:	
A. All Our Networks	52
Less Than All	48
B. Both Voice and Data	68
Data Only	32
C. All Network Equipment	67
Just Certain Items	33
D. Domestic U.S. plus International	18
Nationwide U.S.	50
Regional U.S. Only	32
E. Network-Related Equipment	(Unclear Need)

INPUT

## PROPOSED SERVICE PERCEPTION BIASES

	# Mentions (%)
<b>A. Vendor Use of Alliances</b>	
Favorable	3 (13%)
Unfavorable	6 (25%)
Neutral	15 (63%)
<b>B. Reaction to Foreign Ownership</b>	
Favorable	0 (0%)
Unfavorable	2 (8%)
Neutral	22 (92%)
<b>C. Where Is the Market?</b>	
Large Firms (Fortune 500/<\$500 M Sales)	12 (24%)
Medium Size (\$200-500 M Sales)	21 (42%)
Small Organizations (\$50-200 M)	17 (34%)
	<u>50</u> (100%)

## THE ACID TEST

"In Exchange for Special Terms, Would You Be Interested in Becoming a Showcase Customer?"

	# Respon.	Percent
Yes	6	21
No	18	62
Maybe	5	17
	<u>29</u>	

INPUT

## THE ACID TEST RESPONSE BY ORGANIZATION LEVEL

	Managers (Percent)	VPs/Directors (Percent)
Expressed an Interest	10	50
Not Interested	67	50
Maybe	24	0







### **III. Telecom Services Competitive Environment**

A. Overview

B. Vendor Categories

C. Example Category Profiles

- Telecom Equipment Manufacturers
- Telephone companies
- Third-Party Maintenance Organizations

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## **TELECOM SERVICES COMPETITIVE ENVIRONMENT**

- There Are No Dominant Players
- Many Niche Players
- Few "Pure Plays"
- Few, If any, Companies Are Able to Address the Entire Market
- Many of the Organizations Do Not Have the Expertise, or Interest, to Develop Comprehensive, Nationwide Field Service or Network Management Services

## TELECOM SERVICE PROVIDERS

1. Computer Manufacturers (IBM)
2. Communications Equipment Manufacturers (Paradyne, NET)
3. Telephone Companies (AT&T, RBOCs)
4. Network Management Companies (Network Management, Inc.)
5. Shared Tenant Services Companies (Bramtel)
6. Third-Party Maintenance Companies (TRW, Sorbus)
7. Telecom System Software Firms (Avante-Garde)
8. Interconnects (Northern Telecom)
9. VANs (Tymnet, Telenet)
10. System Integrators (EDS, CSC)
11. Large End Users (Wells Fargo, Xerox)

INPUT



## COMPETITIVE ENVIRONMENT— COMMUNICATIONS EQUIPMENT MANUFACTURERS

	NM Product vs. Services		Scope of Offering			
	Prod	Svc	Des	Imp	Optn	F/S
1.* Harris Corp.		D	D	D	D	L
2.* Timeplex	X	X	X	X	X	L
3.* Network Equipment Technologies	X	X	X	X	X	L
4.* Codex (Online)	D	D	D	D	D	L
5.* ATT/Paradyne Netcare	D	D	D	D	D	L
6. General DataComm	D	D	D	D	D	L
7. Racal-Milgo	D	D	D	D	D	L
8. Atlantic Research	D		D	D		L

**Key:**

\* = Known vendors of Network Management Service

X = Voice and Data

V = Voice only

D = Data only

L = Limited to its own field

INPUT

## COMPETITIVE ENVIRONMENT— TELEPHONE COMPANIES

	NM Product vs. Services		Scope of Offering			
	Prod	Svc	Des	Imp	Optn	F/S
1.* AT&T Unified Ntwk Mgmt Architect & Tariff 12	X	X	X	X	X	L
2.* Pacific Telesis Spectrum (now IBM)		X	X	X	X	L
3.* Contel Customer Support Division		X	X	X	X	
4.* BellSouth Systems Techno- logy, Inc. (Shared Tenant)	X	X	X	X	X	L
5.* Pacific Telecom/Harbor Bay Telecom (Shared Tenant)	X	X	X	X	X	L

**Key:**

\* = Known vendors of Network Management Service

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D = Data only

L = Limited to its own field

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## COMPETITIVE ENVIRONMENT— THIRD-PARTY MAINTENANCE COMPANIES

	NM Product vs. Services		Scope of Offering			
	Prod	Svc	Des	Imp	Optn	F/S
1. TRW Information Services						X
2. Sorbus/Bell Atlantic						X
3. GE						X
4. Interlogic Trace						X
5. CDC						L
6. Idea Servcom						L
7. Decision Data						D
8. Data Serv/Bell South						L
9. Unisys						D
10. Grumman						D

**Key:**

\* = Known vendors of Network Management Service

X = Voice and Data

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## **IV. Market Forecast**

1. Methodology
2. Assumptions
3. Forecasts

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## **MARKET FORECAST SOURCES AND EMPHASIS**

### **Sources:**

1. Trade Literature
2. BTI User Survey Results
3. Vendor Analyses
4. INPUT Experience
  - Telecommunications Program
  - Customer Service Program

### **Research Emphasis:**

1. Objectivity
2. Realism

## CHANGING ROLE OF THE TELECOM MANAGER

Traditional Role	Evolving Role
<ul style="list-style-type: none"><li>• Voice Only</li><li>• Low Level Administrative</li><li>• Utility (Expense Item)</li><li>• Limited Staff</li><li>• Single Vendor Environment</li><li>• Vendor Supplied Expertise</li></ul>	<ul style="list-style-type: none"><li>• Voice, Data &amp; Image</li><li>• Complex Business/Technical Function</li><li>• Competitive Factor (Revenue &amp; Cost Related)</li><li>• Increased Staff with Multiple Skill Requirements</li><li>• Multivendor Environment</li><li>• In-house, Contracted and Vendor Supplied Expertise</li></ul>

## **FORCES DRIVING THE MARKET**

1. The "Information Explosion"
2. Evolving Strategic Role of Networks
3. New Technology and Services
4. Need for Custom Solutions
5. Merger and Acquisition Impacts
6. International Standards (Minor Impact)

## **INHIBITING FORCES ON THE MARKET**

1. Cost Control Pressures
2. More Lip Service than Budget Funding
3. Critical Shortage of Qualified Staff

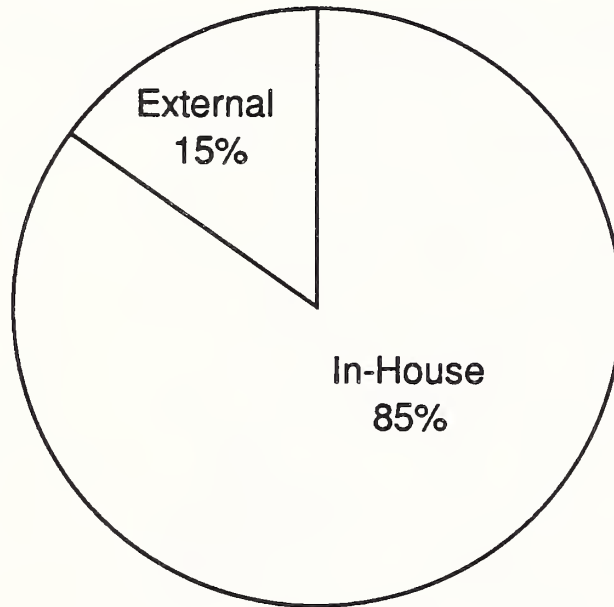


## U.S. PRIVATE NETWORK MARKET FORECAST

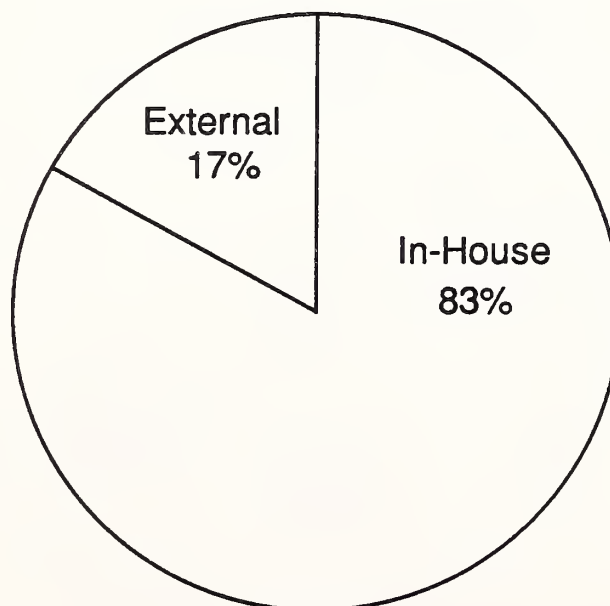
	(\$ Billions)		CAGR
	1988	1993	
U.S. Private Network Expenditures	9.2	14.2	9%
International Network Extensions (5% growing to 8%)	.5	1.2	19%
	<u>9.7</u>	<u>15.4</u>	<u>9.7%</u>

## U.S. PRIVATE NETWORK EXPENDITURES

1988 = \$9.2 Billion

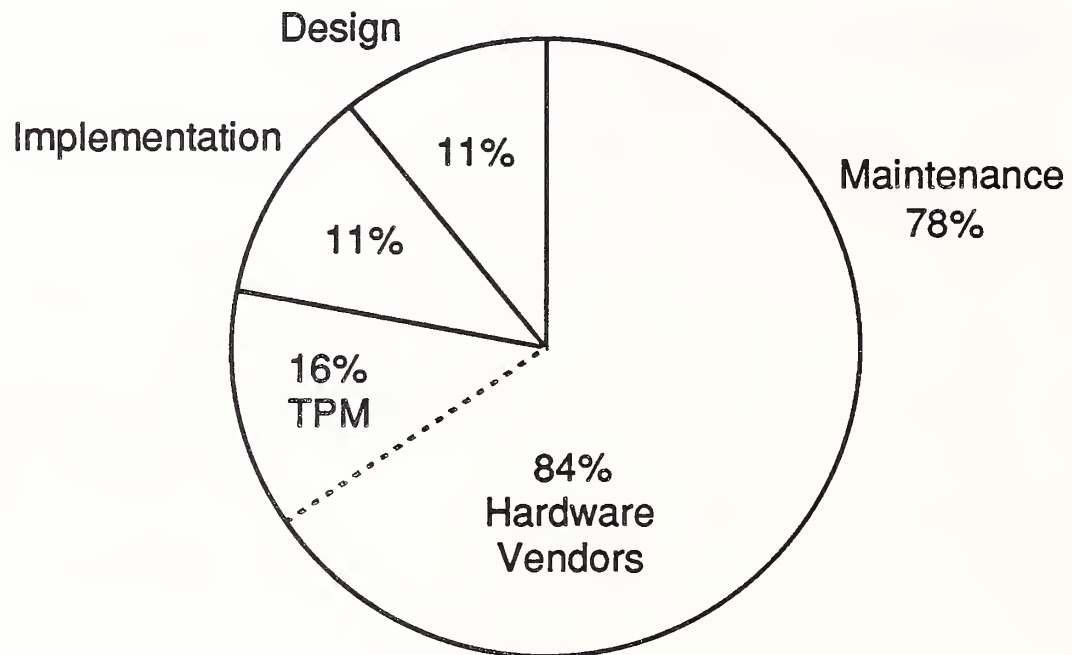


1993 = \$14.2 Billion

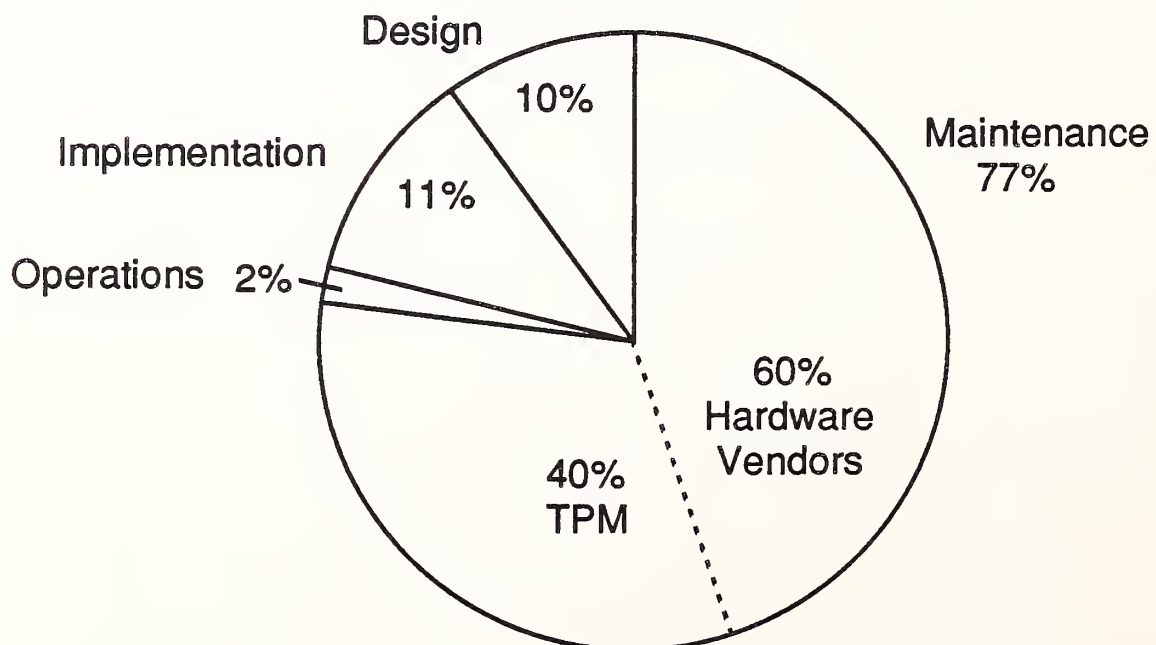


## U.S. PRIVATE NETWORK SERVICES MARKET

1988 = \$1390 Million



1993 = \$2420 Million



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## U.S. PRIVATE NETWORK SERVICES MARKET FORECAST

	\$ Millions						CAGR (%)
	1988	1989	1990	1991	1992	1993	
Network Design	150	160	170	190	210	230	9
Network Implementation	160	180	200	210	230	260	9
Network Operations (FM)	—	—	10	20	30	40	NMF
Network Maintenance							
- Hardware Vendors	910	950	990	1040	1090	1140	4.5
- TPMs	170	220	300	410	550	750	35
- Subtotal	1080	1170	1290	1450	1640	1890	12
Total Services Market	1390	1510	1670	1870	2110	2420	12

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## **V. BTI Strategy Recommendation**

1. BTI Objectives
2. Opportunity Assessment
3. Strategy Options
4. Business Strategy Recommendation
5. Marketing Strategy Recommendations

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## **BTI U.S. PRIVATE NETWORK MARKET OBJECTIVES**

1. Network Service Offerings Only—  
Excluding Reselling Network Facilities
2. Rapid Market Penetration—Major Player  
within Two Years
3. Buy In-Place Capabilities rather than Build  
New Organizations from the Ground Up

## OPPORTUNITY ASSESSMENT

1. Full Range (One Stop) Telecom Services Market Doesn't Exist
  - No Measureable User Expenditures
  - Credibility Problem
  - Users Threatened
  - Not Looking Outside for Help
2. Large Potential Market
3. Must Be Developed by Vendors
  - A Few Leaders Are Trying
  - Few Innovative Approaches
4. Field Maintenance Is the Only "Open Door"

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## BTI U.S. MARKET ASSETS

Strengths	Weaknesses
<ol style="list-style-type: none"><li>1. Telecom Image</li><li>2. Financial Strength</li><li>3. Global "Connections"</li></ol>	<ol style="list-style-type: none"><li>1. No Obvious Established Launching Platform</li></ol>



## BTI OPTIONS: SCENARIO A

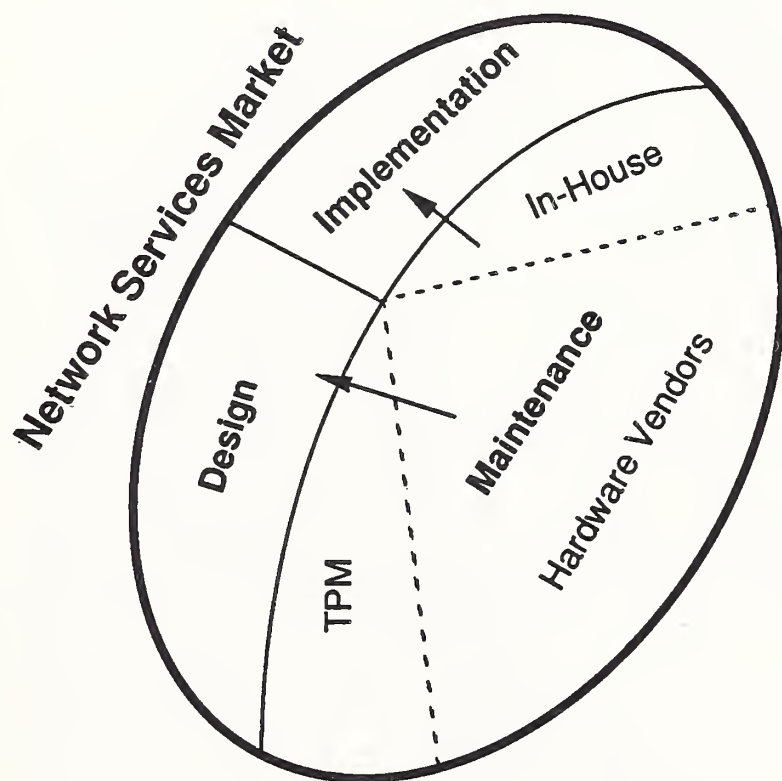
Driving Principle: Target "Hot" Market Needs	
Strategy	Implementation
Step 1: Acquire a Nationwide Field Service Capability	TRW General Electric
Step 2: Flesh Out Field Service Coverages (Product and Geography) by Both Acquisition and Alliances	Long Shopping List of Candidates
Step 3: Acquire Telecom Service Capabilities (Alliances?) <ul style="list-style-type: none"><li>• Design</li><li>• Network Management Skills</li></ul>	Avant-Garde Network Management, Inc.

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## BTI OPTIONS: SCENARIO B

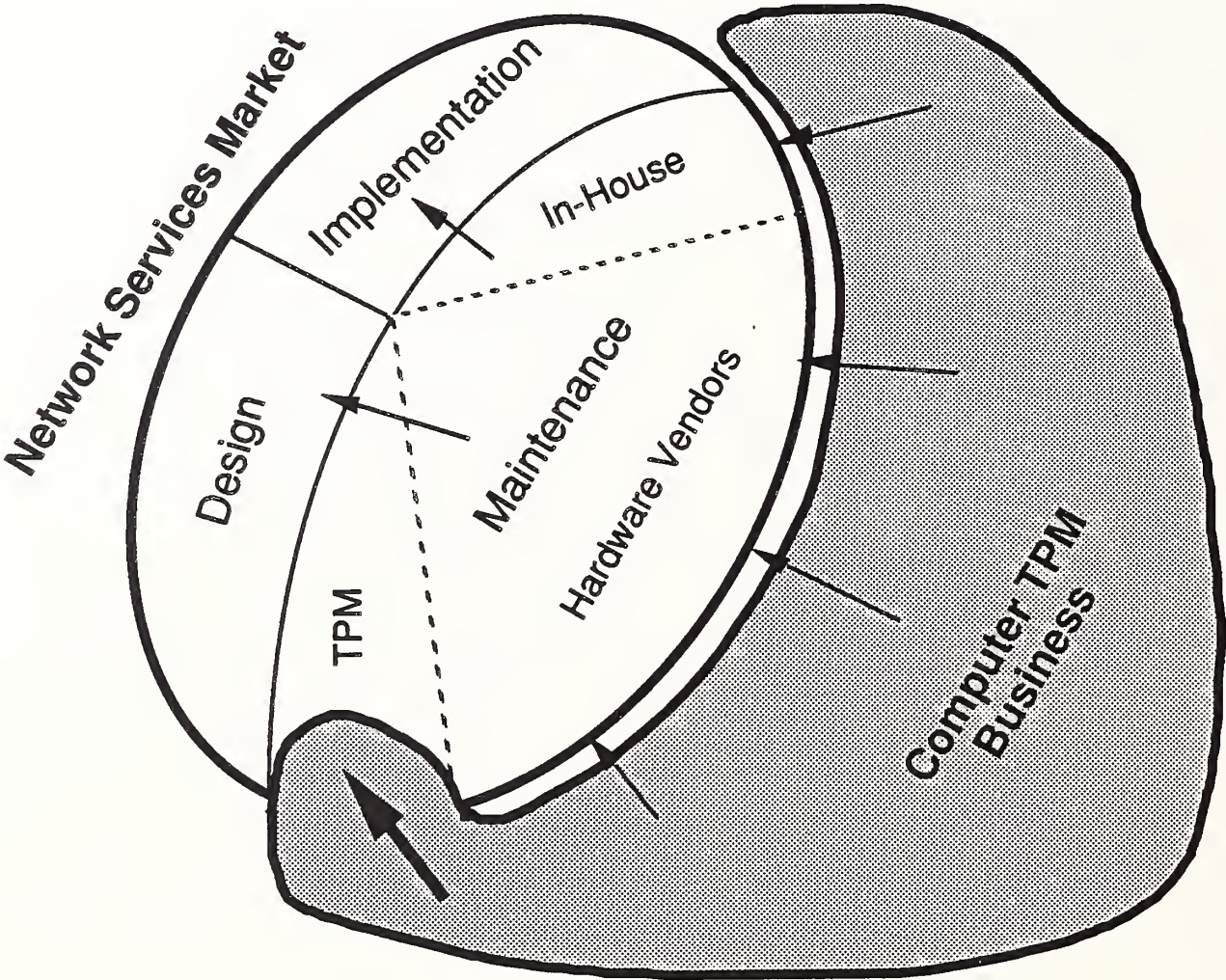
Driving Principle: Target Industry (Vendor Side) Opportunities	
Strategy	Implementation
<p>Step 1: Acquire a Modem Company</p> <ul style="list-style-type: none"> <li>• Customer Base</li> <li>• Field Service Organization</li> </ul>	<ul style="list-style-type: none"> <li>• Declining Future</li> <li>• Several Available</li> </ul>
<p>Step 2: Acquire T-1 Equipment Company</p> <ul style="list-style-type: none"> <li>• Netwide Visibility</li> <li>• High Growth Area</li> <li>• Strategic Position</li> <li>• Might Pick Up NMS System</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• N.E.T./IBM Relationship</li> </ul>
<p>Step 3: Flesh Out Capabilities via Acquisitions and Alliances</p> <ul style="list-style-type: none"> <li>• NMS Capability</li> <li>• Field Service Coverage (Products and Geography)</li> </ul>	<ul style="list-style-type: none"> <li>• Many Candidates</li> </ul>

## RECOMMENDED BTI BUSINESS STRATEGY



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RECOMMENDED BTI BUSINESS STRATEGY



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## **WHY RECOMMEND A COMPUTER TPM ACQUISITION?**

1. Field Maintenance Is the only Viable Penetration Point for Developing a Broader Private Network Support Services Business
2. Users Require Nationwide Service (if Telecom TPM Market Is to Be Developed)
3. There Are No Telecom "Pure Plays" Offering Nationwide Coverage
4. Computer TPM Organizations Are the Only Vehicles that Have Sufficient Coverage to Satisfy User Requirements
5. Several Leading TPMs Appear Attractive and Available

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## **BTI TROJAN HORSE STRATEGY RECOMMENDATION**

1. Chose Scenario A
  - Penetration Point of Least Market Resistance
  - Easier to Manage/Lower Risk
2. Let Computer TPM Acquisition Fund Long-Term Telecom Market Penetration
3. Use the TPM Business to
  - Prove Skills and Win Telecom Client Confidence
  - Address Credibility Problem by Gradually Introducing New Telecom Services
4. Sell Like IBM
  - Build High Level Relationships
  - Sell Benefits to Corporation
5. Maintain Product Independence
  - Broadens the Market
  - Promotes Objectivity/Helps Sell
6. Let Other Firms Take the Market Introduction Risks of Individual New Services
7. BTI Becomes the Multivendor Integrator of the Successful Ones—Offering Non-Threatening "Network Support Services"
8. Use Acquisition for Strategic Resources and Alliances for Tactical Resources



## **BTI COMPETITIVE ADVANTAGES**

1. Uniqueness as a TPM with Telecom Ownership (Only Two Others)
2. BTI's International Experience
3. Focus on the Business—Other Announced Full Service Providers Have Major Product Distractions (IBM, DEC)
4. TPMs Are Unlikely to Have the Vision or Skills to Pursue Broad Telecom Services Successfully

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## **BTI TELECOM SERVICES MARKETING STRATEGY RECOMMENDATIONS**

1. Position as a "Network Support Services" Company
  - No One Has Name Recognition Today
  - Create New Label to Differentiate
  - Avoid Threatening Labels
  - Add the "International" Aspect when Ready to Deliver On It
2. Service Characteristics
  - Quality
  - Best Response/Repair Time
  - Fair Price
3. Build Relationships Like IBM
  - Sell to the Top
  - Promote Benefits
4. Lead the Industry in User Education
  - Target MIS Managers with Telecom Responsibility and Telecom Managers
  - Cover Basics and Leading Trends
  - Breakfast Seminars Very Effective
5. Develop Three Regional (East, Midwest, West) Showcase Customers for Reference Purposes—Especially on Leading Edge Services





## **BTI Business Model**

1. Requisite for Success
2. Services Provided
3. Operational Requirements
4. Distribution channels
5. Pricing Strategy
6. Financial Model
7. Potential Acquisition Candidate Summaries
8. Illustrative Implementation scenario
  - Milestones
  - Investment
  - Revenues
9. Risk Factors

INPUT

## REQUISITES FOR BTI SUCCESS

1. Stealthful but Aggressive Market Penetration
2. Clever Marketing
  - No Precedent
  - Uniqueness Required
  - Don't Underestimate Effort
3. Quality Image
4. Internal Training ("Grow Your Own")
5. Maintain Vendor Independence
6. Deep Pockets



## **FIELD SERVICE REQUIREMENTS**

1. Be Responsible for All of an Organization's Networks
2. Cover Voice and Data
3. Cover All Network Equipment (Consider Expanding beyond to PBXs, Keysets, etc.)
4. Nationwide Service (International Would Be a Big Plus!)

## **BTI BUSINESS EVOLUTION**

1. Acquire TPM Organization(s)
2. Ensure Nationwide Coverage
3. Develop Telecom Skill Set
4. Expand Telecom TPM Services
5. Expand Network Service Offerings
  - Design
  - Implementation
  - Operations (if Market Develops)

## **NETWORK BASED FOLLOW-ON OFFERINGS**

1. Network Design
  - Turnkey Basis
  - Consulting Basis
2. Vendor Selection Services
  - RFP Preparation
  - Contract Negotiation
  - Installation Acceptance Testing
3. Network Problem Determination Support
  - Support All Major Systems (NetView, UNMA, Net/Alert Plus)
  - Network Performance Reporting
4. Personnel Training
5. International Network Support

## **OPERATIONAL REQUIREMENTS— HARDWARE SERVICE**

1. Minimum 200 Locations Nationwide  
(1000+ People)
2. Two Technical Support Centers
  - High Level Expertise
  - Remote Diagnostics
  - Problem Data Base
  - Documentation
3. Two Call Management Centers
  - 800 in-Watts for Customers
  - Radio Paging for Techs
4. Parts Logistics Support
5. Problem Management System
6. Personnel Training Program/Education Center
7. Documentation Development

## **OPERATIONAL REQUIREMENTS— NETWORK SERVICES**

1. Co-Locate with Field Service Centers
  - Leverage Skills and Facilities
  - Operate as Profit Centers
2. Assign Account Managers to Represent All Services to Clients
3. Multivendor Network Management System Skills
  - NetView
  - UNMA
  - Net/Alert Plus
4. Network Configuration Data Base
  - Configuration and Inventory
  - Reference Data
  - Activity Log—Changes/Service Disruptions

## **DISTRIBUTION CHANNEL ALTERNATIVES**

1. Two Basic Channels
  - Direct Sales
  - Organizational Alliances
2. Direct Sales Best
  - Middlemen Cloud Understanding of Client
  - Develop Client Relationships (like IBM)
  - Better Sales Control
  - Ensure Focused Efforts
3. Develop Alliances for Niche Opportunities
  - System Integrators
  - Network Design Firms



## **TYPICAL TPM SALES STRUCTURE**

1. Geographic Territories
2. Sales Reps Get Salary plus Commission
3. Hardware Vendor Fees Paid
4. Dealer/VAR Fees Paid

## **PRICING STRATEGY**

1. TPM Prices Discount Those of Hardware Vendors
2. Charge More for Value Added/Uniqueness
3. Base Decision on Clear Understanding of Costs

## **MODEL PROFIT AND LOSS STATEMENT KEY COMPONENTS**

- Maintenance Revenues
  - Contract Maintenance
  - Time and Materials
  - Installation/Discontinuous
  - Network Management Systems Services
- Cost of Services
  - Labor and Benefits
  - Parts
  - Freight
  - Travel
  - Supplies/Misc.
  - Tools/Equipment
  - Training
  - Occupancy
  - Telecommunications
  - Purchased Services
  - Systems
- Selling, General and Administrative
  - General Management
  - Contract Administration/Billing
  - Marketing/Sales/Advertising
  - Other

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## **MODEL BALANCE SHEET KEY COMPONENTS**

- **Assets**
  - Spare Parts
  - Facilities
  - Tools/Equipment
  - Computers
  - Accounts Receivable
  
- **Liabilities**
  - Prepaid Contracts
  - Accounts Payable
  - Accrued Payroll

## INCOME AND EXPENSE SUMMARY THIRD-PARTY MAINTENANCE COMPANIES

Description	(\$,000)				
	Interlogic Trace	Sorbus MAI B-4	Company A	Company B	Model Company
Maintenance Sales	117,025	77,473	54,690	61,610	200,000
Cost of Service	80,403	52,508	47,394	41,883	140,000
Gross Profit	36,622	24,965	7,296	19,727	60,000
Percent Gross	31.3%	32.2%	13.3%	32.0%	30.0%
Sales, Gen. & Admin.	23,288	18,798	3,717	9,503	40,000
Net Before Taxes	13,334	6,167	3,579	10,224	20,000
Percent Net	11.4%	7.9%	6.5%	16.6%	10.0%

Note: Higher model company margins possible with telecom value added services.

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## COMPANY PROFILE SUMMARY TPM SERVICE PROVIDERS

	Intellogic Trace	GEC	TRW	Decision Data	Sorbus
Revenue (\$ Millions)	135	198*	255	125	202*
Profitability (\$ Millions)	Modest*	0*	Modest*	37	Modest*
Coverage	Nat	Nat	Nat	Nat	Nat
Number Locations	229	283	125	125	200
Reputation (Verbal)					
Availability	UNK	Yes	Yes	UNK	No

\* INPUT estimate

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## COMPANY PROFILE SUMMARY TELECOMMUNICATION COMPANIES

	Avant Garde	NET	Contel	GDC	Net Mgmt, Inc.
Business Line	Software	T-1 MUX	Telephone	MUX	Services
Revenue (\$ Millions)	17	91	2,900*	196	30
Profitability (\$ Millions)	(2.6)	15	43	(18)	Modest
Reputation (Verbal)					
Availability	Likely	Difficult	UNK	Possible	Possible

\* 1987 revenues for total corporation

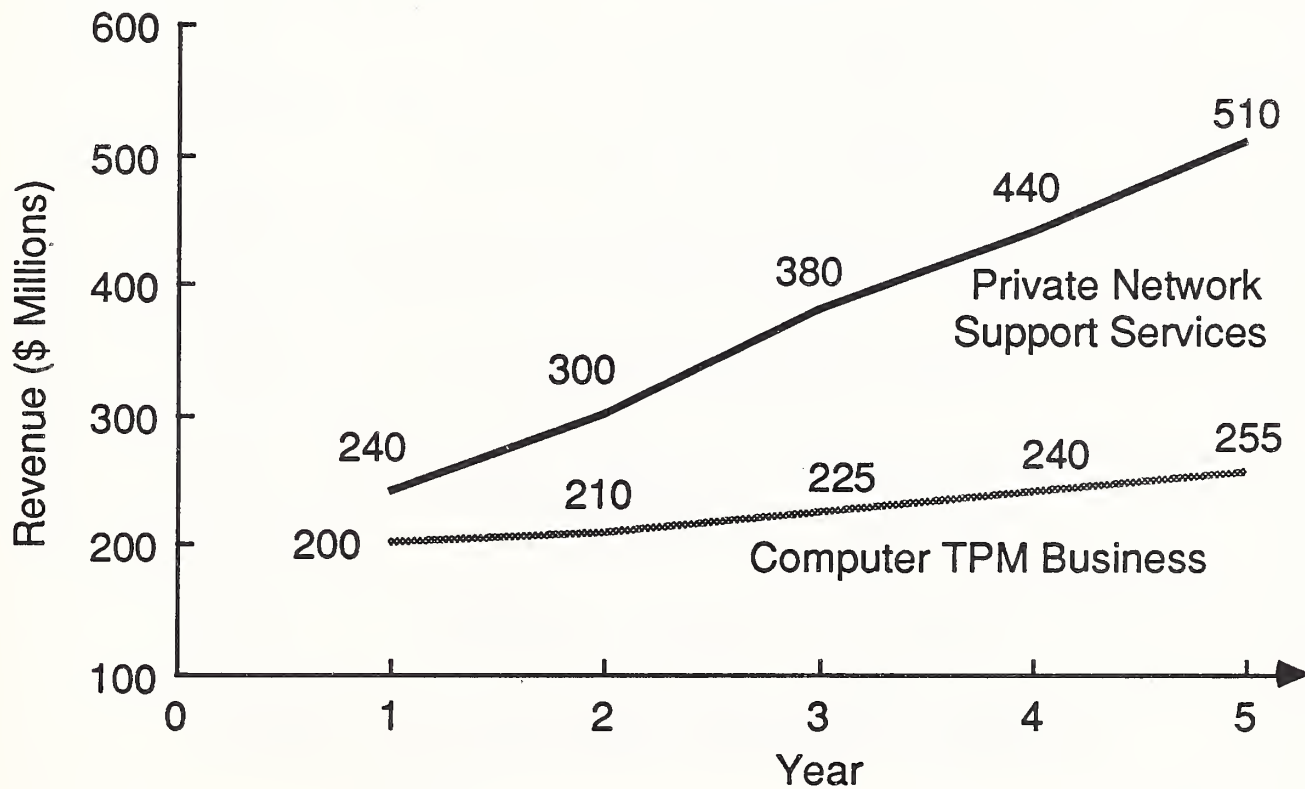
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## BTI IMPLEMENTATION SCENARIO MILESTONES

Event	Investment (\$ Millions)	Immediate Revenue (\$ Millions)	Year			
			0	1	2	3
1. Acquire Major TPM	200+	200	Δ			
2. Fleshout Field Service Coverage						
• Smaller Acquisition	20	20	<u>6 mos</u> Δ			
• Set Up Telecom Training Program	1	0	<u>12 mos</u> Δ			
• Two Showcase Support Centers	4	0	<u>12 mos</u> Δ			
• Two Service Firm Alliances	<u>0</u>	0	<u>18 mos</u> Δ			
	25					
3. Develop Full Telecom Services						
• Acquire Network Mgmt Services Firm	150	50	<u>18 mos</u> Δ			
• Alliances with 2 Design Firms	0	0	<u>18 mos</u> Δ			
• Offer Implementation Services	1	0	<u>24 mos</u> Δ			
• Offer Operations "Support"	<u>10</u>	<u>0</u>	<u>36 mos</u> Δ			
	161	50				
4. Marketing & Sales	14					
• Staffing			<u>36 mos</u> Δ			
• Promo			<u>36 mos</u> Δ			
• Client Education			<u>36 mos</u> Δ			
Total Investment	400+		Over 36 Months			

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## BTI REVENUE GROWTH SCENARIO



Assumptions: (1) Computer TPM CAGR = 6%  
(2) Telecom TPM CAGR = 35%  
(3) Other Network Support Services CAGR = 25%

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## KEY RISK FACTORS

- Restrictive Vendor Policies
- Network Interface Limitations
- Computer Manufacturer Competition
- Network Standards Lacking
- Slower than Forecast Telecom TPM Growth
- Forgetting the Basic Business (Computer TPM)

## **FOLLOW ON ANALYSIS TOPICS**

1. A Closer Examination of the U.S. Computer TPM Business
2. Profiles on U.S. Vendors (e.g., VOLT Information Sciences) who May Have Unique Strategic Value to BTI
  - Telecom Maintenance Services
  - Design Services
  - Temporary Maintenance Personnel
3. Merger and Acquisition Support
  - Selection Screen Criteria
  - Source Candidates
  - Evaluate Candidates
  - Valuation
  - Qualify and Provide Introductions
  - Due Diligence
4. Emerging AI Applications
  - Network Management
  - Field Maintenance

**INPUT**









